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National
Agricultural
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U.S. Department
of Agriculture
Beltsville, MD
20705

AGRICULTURAL LIBRARIES INFORMATION NOTES

Volume 13
Number 10/11

October/November 1987

ISSN: 0095-2699

AGRICOLearn: INTERACTIVE LASER VIDEODISK TECHNOLOGY FOR AGRICOLA INSTRUCTION

by
Robert W. Butler

Leader, Education
and Training, NAL

NAL has a new instructor for the AGRICOLA course. His name is Roger. He does not work for NAL, he is not a librarian, and he has only been in the NAL building once. He is an actor and serves as the guide for a course on understanding and searching the AGRICOLA online database. The students see and hear him only through the monitor and speakers of a computer system. His form, movements, and words are recorded on a laser videodisk. He is part of an innovative and exciting "high tech" project called AGRICOLearn.

AGRICOLearn is a course of instruction in searching the AGRICOLA online database, which is a major research database, online with two of the largest database vendors, DIALOG and BRS. Researchers and librarians use it throughout the country and the world. A full range of data elements provides opportunity for simple or very complex search strategy.

This computer-assisted interactive videodisk course allows students to work one on one with the system. The computer program guides the students through a complete course, or they may pick only those parts they want. Many paths and subpaths are available and many levels of instruction possible.

The course provides an introduction to AGRICOLA, a refresher, or instruction for in-depth searching.

The package combines the computer's ability to address individual need and to provide great flexibility with the laser videodisk's palette of motion video pictures, stills, graphics and audio information.

NAL decided on this project to make AGRICOLA training more available and effective. NAL sought an alternative to

Below, demonstrating AGRICOLearn, Marilyn Jacobs of NAL (front left) has an elated pupil, while other visitors, who came to the ceremony unveiling the system, October 15, watch.

USDA photo



some instructor-led courses as funds became less available for travel by instructors to external sites. NAL also wanted a system which would be available in whatever location an owner or borrower wished to put it and for as many hours as desired, and which onsite instructors could use as a teaching tool. This alternative became possible as this new technology proved to be effective for instruction:

"When using interactive delivery methods instead of other instructional methods, learners can cover course material more rapidly. Unlike classroom students, interactive video learners are not locked into a specific linear instructional sequence, and can skip over material they already know or have mastered.

"Also, because audio and video training is coupled with learner interaction, the student is able to learn the same amount of information--but more efficiently than with a more traditional format....

"Learners using videodisc-based instruction remember more material and remember it longer than learners using traditional delivery methods."

[From Roy Strauss and Richard Lentz, "Benefits of Interactive Video Instruction," *The Videodisc Monitor*, March 1987, p. 13.]

(Below) Dr. Janis Morariu, Project Director, and Robert W. Butler, NAL Coordinator, present AGRICOLearn at the unveiling ceremony, October 15. USDA photo



(Right) Dr. T. Benjamin Massey, Chancellor, University College, University of Maryland, who represented the University at the AGRICOLearn unveiling.

USDA photo



NAL entered into an agreement with the University of Maryland, Center for Instructional Development and Evaluation (CIDE), College Park, MD, to develop the AGRICOLearn course. CIDE did the instructional planning, design, video production and programming. NAL worked closely with CIDE, spending many staff hours on the subject content. While the NAL interest centers on the instruction in use of its AGRICOLA database, the University of Maryland's interest is in the use of the technology in education and as a model of instruction in searching online databases like AGRICOLA.

Objectives

This project provides an interesting and motivating onsite training system, available 24 hours per day, if needed, and is designed to meet these objectives:

1. To define the AGRICOLA online database and its uses.
2. To show how AGRICOLA is searched and what results and products can be expected.
3. To enable the users to search the AGRICOLA database at a less complex level, such as for author or title.
4. To teach the user to search the AGRICOLA database by subject or any aspect at an in-depth level.



USDA photo

(Left) Part of the audience of more than sixty persons who attended the AGRICOLearn unveiling in the Special Collections Reading Room at NAL. Two-thirds of the participants were invited guests and the rest were NAL staff members. After the formal demonstration, the audience was invited to adjourn to several locations in the NAL Building where individuals could get hands-on experience with the equipment and course on the videodisk.

5. To provide understanding of the new and innovative interactive computer videodisk technology.

6. To promote understanding of online databases.

7. To foster understanding of searching online databases.

8. To create a model for Computer-Based Interactive Video (CBIV) instruction for bibliographic databases.

Audience

The course is for anyone who wants to know about or search the AGRICOLA online database, such as agricultural scientists and researchers, extension agents, librarians and information specialists in rural areas or in agricultural universities and information centers, students and faculty at colleges of agriculture or other agricultural units at universities, and those seeking a model for training in the use of online databases and interactive technology. These include library and information science faculty and students, and librarians and information specialists. An instructor of an AGRICOLA course, whether beginning level or advanced, will be able to call on the system for examples and explanations of commands and procedures, and for demonstrations of searches, and the student will be able to review as desired.

Structure of the Course

The course is contained on a videodisk, 10 computer floppy disks, and some printed material. It is organized into modules or chapters with the following headings: 1: Introduction; 2: Personal Assessment; 3: Databases in General; 4: Search and Retrieval Strategies; 5: AGRICOLA database; 6: DIALOG and BRS; 7: Simulation.

The computer assesses the students' needs, recommends chapters and lessons to be done, and remembers those completed for each student. However, the student may select lessons in any sequence or combination. Chapters generally consist of several lessons, with an option always to go to another chapter or lesson, to go to the index/glossary, or to exit the program. The index/glossary contains important terms and concepts with definitions and hypertext access to fuller descriptions.

The AGRICOLearn course can be easily updated. The videodisk cannot be changed; however, most of the course content, which is on computer floppy disks can be. New lessons can be added or old lessons adjusted using the IMSATT authoring system with which the course was created. Although the videodisk cannot be changed, it can be accessed and used in new ways.

(Right) Participants in the AGRICOLearn unveiling ceremony and demonstration examine the course materials.


Importance

The courseware resulting from this program will substantially benefit agricultural libraries and institutions all over the world by providing an understanding of and ability to use one of the largest and most complete databases of agricultural citations in the world. Courses can be developed in various languages and at various levels to assist less developed countries in acquiring agricultural information. The AGRICOLA database has been put on compact laser disks. It is feasible to produce an independent, stand-alone system which would contain the entire AGRICOLA database on compact disks in combination with the interactive system providing a complete set of instructions at various levels and in various languages, and an expert system for assistance during searches. The library education profession will benefit from the development and use of this very recent and highly effective technology for instruction and from the dissemination of its knowledge, capabilities, and uses among those entering the information profession.



USDA photo

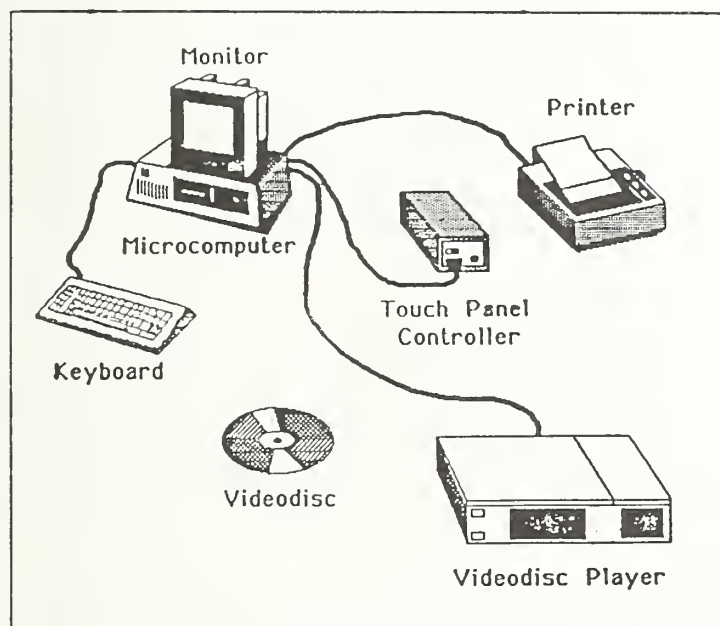
Availability of the Course

NAL offers a single copy of the AGRICOLearn course free to land-grant university libraries that have or plan to acquire the system on which to run it. The hardware and software are the same as those used by the USDA's Interactive Video Extension Network (IVEN), a Federal and State cooperative project to bring research results to farm and ranch families. NAL will provide a system for loan to institutions which may not be able to acquire it. Those interested should contact Robert Butler, Room 204B, National Agricultural Library, Beltsville, MD 20705. Or call (301) 344-1562. The course may also be purchased from the CIDE at a cost of \$800. Contact Dr. Janis Morariu, CIDE, University of Maryland, University Boulevard at Adelphi Road, College Park, MD 20742. Or call (301) 985-7897. 



USDA photo

Lee Decker of NAL (on the left) demonstrates the AGRICOLA database on compact disk (CD ROM) after the opening program for AGRICOLearn. Participants saw both new technology applications side by side.



EQUIPMENT NEEDED FOR USE OF AGRICOLearn

- XT- or AT-type computer
- videodisc player*
- controller card with overlay*
- IMSATT drivers for use only or the IMSATT authoring system* to develop or enhance the course

*For information on the specific players and controller cards that may be used and on the IMSATT authoring system, contact Robert Butler, Room 203, NAL, Beltsville, MD 20705. (301) 344-3937.

ROBERT
W.
BUTLER



Robert W. Butler is Leader, Education and Training, at NAL. He was the Head of Acquisitions from 1970-84, and has served in several other positions in collection development and other library services since coming to NAL in 1968. Before that, he held a variety of positions in both public and technical services in several military libraries and managed an ERIC information center.

In 1979 he served for a month as a consultant to the Saudi Arabian Ministry of Agriculture and Water on the facilities, arrangements, organization, staffing, collection and services of its library. From 1977-80 he was the editor of the *Quarterly Bulletin of the International Association of Agricultural Librarians and Documentalists*, and he has served on committees of the Resources and Technical Services Division of the American Library Association.

Mr. Butler's previous experience in computer technology includes implementation of the OCLC Acquisitions system at NAL and managing database input of an ERIC information center.

As the two-year AGRICOLearn project, which he has coordinated since it began in September 1985, nears completion, Bob says of the finished product, "Using AGRICOLearn is not only convenient and instructive, but fun."

(Top) The cover design of the AGRICOLearn package. (Center) A typical system for use of AGRICOLearn, with others possible.

CENTER FOR ALTERNATIVES TO ANIMAL TESTING

by Jo Martin

Director of Communications,
School of Hygiene and Public Health,
The Johns Hopkins Medical Institutions

The Johns Hopkins Center for Alternatives to Animal Testing (CAAT) is one of its own most successful experiments. Founded in September 1981 at the Hopkins School of Public Health in Baltimore, the Center concept was unique. Never before had such a joint venture been tried--industrial funding of investigator-initiated grants awarded to applicants from the host and external institutions through a peer review process.

Alan Goldberg, Ph.D., a toxicologist and associate dean at the School of Public Health, is the Center's director. According to Goldberg, the Center has three major areas of focus:

- Funding research into the replacement or reduction of animals in toxicity testing.
- Maintaining an In Vitro Toxicology Laboratory to stimulate research at the fundamental and applied levels.
- Communicating the progress of the Center to the scientific and lay communities.

The enabling grant from the Cosmetic, Toiletry and Fragrance Association, Inc., reflected a need for industry to foster outstanding research to seek alternatives. Hopkins was eager to increase private sector relationships in line with its traditions of scientific excellence and academic freedom.

Since its inception, the scientific program has funded more than \$2.5 million in grants for investigation of inflammation and irritation, cellular toxicity-acute toxicity, and organ specific responses. Scientists in the United States, Canada, and Europe have been awarded CAAT grants, and most of their studies have been published or are in press in scientific journals and books.

The research activities of the In Vitro Toxicology Laboratory, directed by John Frazier, Ph.D., associate director of the Center, point to the development of innovative in vitro toxicity testing methods for the evaluation of organ-specific cytotoxicity of chemical agents. Of particular importance is the lab's support of the Center's efforts to develop in vitro alternatives to the Draize eye test.

The lab offers industry, government, and academic scientists an opportunity to learn tissue culture techniques and to develop their skills.

But the Center's activities do more than lead to alternatives to animal testing. The education program provides a clearer understanding of its program and progress for the scientific community, corporate leaders, legislators, animal rights groups, and the general public.

Representatives of the Center speak with the media almost on a daily basis. Its scientists testify before policy-making groups. A newsletter is published three times a year with an international circulation of 20,000. When Goldberg participated in a symposium in Japan last year, he found that the newsletter is translated into Japanese.

The Center initiated a series of workshops in 1987 to present an overview of currently-funded research; and its international symposia draw more than 250 people, with the proceedings published as part of the series *Alternative Methods in Toxicology*.

Major sponsors of the Center are The Cosmetic, Toiletry and Fragrance Association, Bristol-Myers Co., Exxon Corp., Amoco Corp., and Abbott Laboratories. The Geraldine R. Dodge Foundation supports the newsletter and Bausch and Lomb sponsored the development and publication of Volume 4 of the *Alternative* series.

Because of the Hopkins commitment to excellence and a firm scientific basis for research, communication, and credibility, the Center for Alternatives to Animal Testing is fostering projects which will
(See CAAT, p. 7, col. 2)



INFORMATION CENTERS...

...WHAT'S NEW

ANIMAL WELFARE INFORMATION CENTER EXHIBIT AND BROCHURE

NAL's Animal Welfare Information Center (AWIC) recently developed a four panel table-top exhibit that is now available for loan. The exhibit is very portable and easy to "set-up." The two center panels include a graphic of the six species of laboratory animals that are specifically named in the 1985 amendment to the Animal Welfare Act. Surrounding this graphic design are photographs of researchers interacting with laboratory animals and one photo of cell cultures to indicate the use of alternatives in research. One of the side panels briefly describes the types of information to be provided by NAL staff through the Animal Welfare Information Center as stated by the 1985 amendment. The other side panel highlights some information about NAL and the services available.

Several types of information handouts can accompany the exhibit. The recently completed AWIC brochure shares the graphic design of the table-top exhibit, and describes the scope of the information center and the services available in detail. Other handouts will be identified at the time exhibit loans are scheduled.

Persons interested in using the AWIC exhibit should send a request that includes: the date(s) of the event, name of the meeting, type and number of meeting attendees, and a contact person (include telephone number with address). Please make all requests well in advance of the actual date needed.

For more information about the exhibit, shipping procedures, and availability contact: Jean Larson, Coordinator, Animal Welfare Information Center, Room 304, National Agricultural Library, Beltsville, Maryland 20705, (301) 344-3704.

CAAT (from p. 6)

lead to new, less expensive and more accurate methods of safety testing. Other projects under its sponsorship will provide the basic groundwork for further research and development.

Further information about the Johns Hopkins Center for Alternatives to Animal Testing is available through the Office of Public Information at the School of Public Health. Call or write: 615 N. Wolfe St., Room 1605, Baltimore, MD. 21205. (301) 955-6878.

"NATIONAL AGRICULTURAL LIBRARY" OF EGYPT

Drs. Mohamed F. Sharaf and Ragaa Abdel-Haby, Chair and Assistant Chair, respectively, of the Library and Information Systems Working Group of the Egyptian Ministry of Agriculture, visited NAL October 13 and 14 to see demonstrations of library technology and gather information to be used in development of a "National Agricultural Library" in Egypt. USDA's Office of International Cooperation and Development is aiding the Ministry of Agriculture as part of its National Agricultural Research Project.



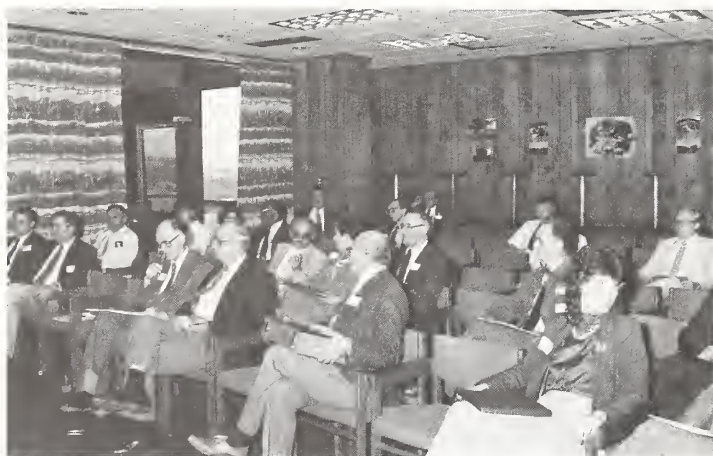
In the photo above Joseph Howard, NAL Director, meets with Dr. Abdel-Haby (center), who is Deputy Director of the Egyptian Documentation and Information Center, Ministry of Agriculture, and Dr. Sharaf (right), who is Director of the Agricultural Economics Research Institute, Ministry of Agriculture, Cairo, Egypt.

Rural Information Center Briefing

August 21, 1987

Deputy Secretary of Agriculture, Peter C. Myers, in recent testimony before the Conservation, Credit and Rural Development Subcommittee of the House Agriculture Committee, reemphasized USDA's commitment to rural America and announced its 6-point Rural Regeneration Initiative. In this program the Extension Service and the National Agricultural Library serve as an information clearinghouse. Since then the two agencies have been cooperating to develop a Rural Information Center at NAL. On August 21, staff from both agencies held a briefing to present plans for the Center; the first project will be the creation of an information Hotline, with a pilot to begin with one state in winter 1987-88 and more states to be added as the Center develops.

(Below) Robyn Frank, Head, Information Centers Branch, NAL; David Johnson, U.S. Senate Agriculture Committee Staff; Pat John, Assistant to the Chief, Technical Services Division, NAL, and acting co-coordinator, Rural Information Center.



The audience at the briefing included people from both government and the public sector.

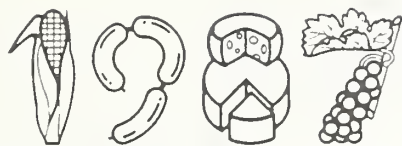


(Above) Kate Hayes, Coordinator of two Information Centers--Family and Fiber, and acting co-coordinator of the Rural.



(Left) Key personnel from NAL and ES, developing the Rural Information Center. (From left front row) Kate Hayes, NAL; Pat Calvert, Deputy Director, Information and Communication Staff, ES; Beth Honadle, National Program Leader for Economic Development, ES; Robyn Frank, NAL; Pat John, NAL; Charlotte Travieso, Staff Leader, Management Systems, ES; (back row) Denzil Clegg, Associate Administrator, ES; Bob Lovan, National Program Leader for Natural Resources and Rural Development, ES; and Joe Howard, Director, NAL.

Food
and
Nutrition
Writers
and
Editors
Visit
NAL



**JOURNALISTS'
CONFERENCES**

**FOOD SAFETY AND
NUTRITION UPDATE**

U.S. Department of Agriculture
Food and Drug Administration

(Below) One of two groups of food, consumer, health, science, medical, and nutrition reporters, writers, and editors attending the joint USDA/FDA journalists conference "Food Safety and Nutrition Update" attend an NAL presentation on the library's services.



(Below) Among those attending the Rural Information Center Briefing were David Lane, Deputy Press Secretary, USDA; Kelly Winkler, Confidential Assistant, Small Community and Rural Development; and Kirk Ferrell, Assistant to the Deputy Secretary [Peter C. Myers].



(Below) Kate Hayes (left) exhibits materials related to the Family and the Fiber Information Centers, which she coordinates. (Bottom) Jim Krebs-Smith, Coordinator, Food and Nutrition Information Center, answers a question (the Food Irradiation exhibit in background).



(Above) Robyn Frank and Joseph Howard, NAL, and Denzil Clegg, ES.





UNES photo

**Jessie
C.
Smith**

MAKING WAVES

by Beverly Goldberg, Career Services
Editor, *American Libraries*

June marked the end of Jessie C. Smith's five-year consultancy for the ambitious Zambia Agricultural and Research Extension (ZAMARE) project to help the south central African nation achieve greater self-sufficiency.

Smith, who is library services director for the University of Maryland/Eastern Shore, masterminded plans to launch a national agricultural library system. She reorganized nine existing library substations into computer-linked branches of the Mount Makulu Research Station, which she designated as the country's central agricultural research library. A one-time school librarian, Smith worked with project partners from the local Ministry of Agriculture and Water Development, the University of Illinois at Urbana-Champaign, and the U.S. Agency for International Development.

Her administrative, technical, and educational proposals have already paid off for the nation's 700,000 independent farmers. By utilizing ZAMARE's still-evolving resources, microbiologists have developed a breakthrough inoculation that makes Zambian soil suitable for soybean crops. [Reprinted from *American Libraries*, Vol. 18 (7): 624, Jul/Aug. 1987.]



STAFF UPDATE

photo: J. Swab



**Susan
Whitmore**

SUSAN WHITMORE HEADS DCRC

On September 14, 1987, Susan Whitmore became the Head of the D.C. Reference Center of NAL. This library center located in Room 1052 in the USDA's South Building, provides a full range of library and information services to the administrative staff of the Department of Agriculture in its central complex on the Mall and Independence Avenue. While its name implies that it contains a reference collection, the DCRC also has online computer access to NAL's AGRICOLA database and other databases, daily document delivery service from the main library in Beltsville for both loaned and photocopied publications, a periodicals display for current and recent issues of economic, political, social, and scientific journals of greatest interest to the D.C. library users, and access to all of NAL's services.

In addition Ms. Whitmore indicated that she will establish a demonstration and training center at DCRC. As one of the teachers for the AGRICOLA Training Workshops, she helped develop and advance the

present course, and served as a technical advisor and writer for the AGRICOLearn interactive videodisk course. She and three other instructors will conduct a series of the basic and advanced AGRICOLA and CRIS workshops at DCRC. The Center will also demonstrate and train users in the applications of new technologies developed by NAL including AGRICOLA on compact disk (CD ROM), AGRICOLearn, the *Pork Industry Handbook* and a dozen other full text documents on CD ROM, the Forest Service Photographs videodisk, several expert systems, and new products as they are completed.

Ms. Whitmore and the DCRC staff will also conduct a more active outreach program to inform current and potential users of new products and services, will interview key officials in the various agencies of the Department, and will discuss with them their information needs and concerns. The DCRC staff will develop a number of publications to identify the Center's services and holdings for the users.

Ms. Whitmore joined the NAL staff in October 1984 after having served as an intern in the Veterans Administration Library and Food and Drug Administration, Bureau of Foods Library. For two of the years at NAL she held a collateral assignment as Head of the National Arboretum Library, and was the first coordinator of NAL's Horticulture Information Center.

Ms. Whitmore earned her MLS at Catholic University, an M.S. in plant pathology at the University of Maryland, and a B.S. in Biology at George Mason University. She has published part of her thesis, "Heavy Metal Susceptability in Spiroplasmas."

JANET WRIGHT HEADS CIRCULATION

On August 24, Janet Wright joined the NAL staff as supervisor of Circulation and Information Desk services. In announcing Ms. Wright's appointment, Carol Ditzler, Head of Lending Branch, stated that for the first time in several years Lending Branch now has a full complement of supervisors. This service unit assists on-site users in locating and using materi-

als, handles telephone inquiries, and provides information or referrals to other service units. The supervisor also helps monitor contractor performance in providing xerox or microform copies of requested documents and other stacks or document delivery services.

Among Ms. Wright's duties will be the implementation of ISIS, NAL's integrated library system, as it relates to circulation and patron assistance at the desk in the lobby, production of guides to lending services, outreach to users, and stack passes.

With one of her two major outside interests being traveling, Ms. Wright, has been fortunate to acquire much of her extensive library experience in interesting places. She has been Head of Technical Services at both the College of the Virgin Islands and the Command Reference Center in Heidelberg, West Germany, and has worked at a couple of small Post libraries in Panama. She was Head Librarian at the Paul D. Camp Community College in Franklin, VA. Ms. Wright came to NAL from the National Defense University at Ft. McNair, in Washington, DC, where she was a reference librarian. She earned both her BA in English and her MLS at the University of Maryland.

Ms. Wright pursues her other major outside interest, gardening, at her home in Oxon Hill, MD, and by taking gardening courses at the National Arboretum. This interest, she said, was in direct conflict with her interest in traveling since both have the same high season. Ms. Wright's husband, John MacRae, is a nurse at the Greater Southeast Community Hospital, Washington, DC, and her son is a sophomore at Bowie State College, MD.



Janet Wright



NEW BIBLIOGRAPHIES

QUICK BIBLIOGRAPHIES

The bibliographies in this series are primarily computerized online as batch bibliographies emanating from searches performed by the NAL reference staff in response to customer requests. Searches are selected for inclusion based on the currency of the topic, interest among clientele, relative length and probable value to a larger audience. Unless otherwise specified, citations are from AGRICOLA. Revisions or updates will be renumbered and reannounced. Only one copy of a title will be sent; however, requesters may make copies. To request a copy of a *Quick Bibliography*, circle the desired title(s) below and send a self-addressed label to:

Reference Branch, Room 111
National Agricultural Library
Beltsville, MD 20705

Q.B.--87-52. Christmas Trees: Production and Economics, 1979-March 1987. 298 citations; English only. Prepared by Jerry Rafats. May 1987. Updates 86-08.

Q.B.--87-53. Crawfish Farming, 1979-86. 64 citations; languages: none excluded. Prepared by Lee Decker and Deborah T. Hanfman. May 1987. Updates 86-46.

Q.B.--87-54. Nutrition Education Materials: Grades Preschool thru 6, 1979-March 1987. 306 citations; English only. Prepared by Holly Berry Irving. May 1987.

Q.B.--87-55. Nutrition Education Materials: Grades 7 thru 12, 1979-March 1987. 223 citations; English only. Prepared by Holly Berry Irving. May 1987.

Q.B.--87-56. Floricultural Marketing, 1970-1986. 339 citations; English only. Prepared by Susan C. Whitmore and Henry Gilbert. July 1987.

Q.B.--87-57. Goat Husbandry in the U.S., 1979-1986. 125 citations; English only. Prepared by Jayne T. MacLean. July 1987. Updates 84-01.

Q.B.--87-58. Integrated Pest Management and Biological Control, January 1985-March 1987. 324 citations; English only. Prepared by Jayne T. MacLean. July 1987. Updates 86-19.

Q.B.--87-59. Agricultural Trade Situation of the USSR, 1979-March 1987. 103 citations; English only. Prepared by Mary E. Lassanyi. July 1987. Updates 85-12.

Q.B.--87-60. Australian and New Zealand Agricultural Markets, 1979-March 1987. 315 citations; English only. Prepared by Mary E. Lassanyi. July 1987. Updates 84-31.

Q.B.--87-61. Japan's Agricultural Market and Trade, 1979-March 1987. 139 citations; English only. Prepared by Mary E. Lassanyi. July 1987.

Q.B.--87-62. Mexico and Its Developing Agricultural Market, 1979-March 1987. 199 citations; English only. Prepared by Mary E. Lassanyi. July 1987. Updates 85-29.

Q.B.--87-63. Marketing of Horticultural Products, 1979-April 1987. 276 citations; languages: none excluded. Prepared by Mary E. Lassanyi. September 1987.

Q.B.--87-64. Agricultural Policies and Research Programs, 1975-April 1987. 243 citations; English only. Prepared by Mary E. Lassanyi. September 1987. Updates 86-70.

Q.B.--87-65. Nonpoint Source Pollution, 1984-March 1987. 133 citations; English only. Prepared by Jayne T. MacLean. September 1987. Updates 86-66.

Q.B.--87-66. Double Cropping and Interplanting, 1984-March 1987. 260 citations; English only. Prepared by Jayne T. MacLean. September 1987. Updates 86-78.

Q.B.--87-67. Natural Regeneration of Southern Pines, 1979-March 1987. 270 ci-

tations; English only. Prepared by Jayne T. MacLean. September 1987. Updates 83-41.

Q.B.--87-68. Drip and Trickle Irrigation, 1985-April 1987. 282 citations; English only. Prepared by Jayne T. MacLean. September 1987. Updates 86-58.

Q.B.--87-69. Farm Animal Welfare, 1979-March 1987. 257 citations; languages: none excluded. Prepared by Charles N. Bebee. September 1987.

Q.B.--87-70. Toxic Residues in Foods, 1979-March 1987. 239 citations; English only. Prepared by Charles N. Bebee. September 1987.

Q.B.--87-71. Indoor Gardening, 1984-April 1987. 145 citations; English only. Prepared by Jayne T. MacLean. September 1987. Updates 85-11.

Q.B.--87-72. Inert Ingredients of Pesticides: Residues in Foods, 1979-May 1987. 307 citations; English only. Prepared by Charles N. Bebee. September 1987.

Q.B.--87-73. Mechanically Deboned Meat, 1979-April 1987. 165 citations; languages: none excluded. Prepared by Sheldon Cheney. September 1987. Updates 82-33.

Q.B.--87-74. Circadian Rhythms (Animals), 1979-April 1987. 271 citations; English only. Prepared by W. H. Longenecker. September 1987.

Q.B.--87-75. Circadian Rhythms (Plants), 1979-April 1987. 372 citations; English only. Prepared by W. H. Longenecker. September 1987.

1988

Q.B.--88-01. Imported Fire Ant, 1983-May 1987. 120 citations; languages: none excluded. Prepared by Evelyn A. Brownlee. October 1987. Updates 82-17.

Q.B.--88-02. Mesquite: Recent Research, 1979-May 1987. 246 citations; languages: none excluded. Prepared by Evelyn A. Brownlee. October 1987.

Q.B.--88-03. Green Manures and Cover Crops, 1979-May 1987. 294 citations; English only. Prepared by Jayne T. MacLean. October 1987.

Q.B.--88-04. Nursery Production of Landscape Plants, 1979-April 1987. 164 citations; English only. Prepared by Jayne T. MacLean. October 1987.

Q.B.--88-05. Effects of Chemicals on Roadsides and Noncrop Lands, 1970-May 1987. 265 citations; English only. Prepared by Charles N. Bebee. October 1987.

Q.B.--88-06. Urban Forestry, 1984-May 1987. 209 citations; English only. Prepared by Jayne T. MacLean. October 1987. Updates 86-25.

Q.B.--88-07. Amaranths for Food or Feed, 1979-May 1987. 111 citations; English only. Prepared by Jayne T. MacLean. October 1987. Updates 81-01.

Q.B.--88-08. *Bacillus Thuringiensis* for Biocontrol, 1979-June 1987. 378 citations; English only. Prepared by Jayne T. MacLean. October 1987.

Q.B.--88-09. Women in Agriculture, 1979-July 1987. 277 citations; English only. Prepared by Jerry Rafats. October 1987. Updates 84-64.

Q.B.--88-10. Ginseng, 1979-July 1987. 280 citations; languages: none excluded. Prepared by Jerry Rafats. October 1987. Updates 86-07.



SPECIAL REFERENCE BRIEF COUNTERTRADE OR BARTER

S.R.B.--88-01. Countertrade or Barter. 222 Citations. Prepared by Mary E. Lassanyi. October 1987.

Readers may request a copy in the same manner as for *Quick Bibliographies*.



PUBLICATIONS EXCHANGE

SERIAL GAPS

The National Agricultural Library identifies gaps in the national collection through collection maintenance activities and patron requests. We appreciate your donation of the following publications needed to complete collections. If you have questions, call Ruth Finnblade, Gift and Exchange Program, (301) 344-3866.

Send items to: National Agricultural Library, Gift and Exchange Program, Room 002G, Beltsville, MD 20705.

Advances in Vegetation Science. 1986, No. 8 to date.

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National Agricultural Library, USDA,
Attn: Gift and Exchange, Room 002,
Beltsville, MD 20705 (enclose a self-addressed label); or call Ruth Finnblade, (301) 344-3866.

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***Financial Well-Being of Farm Operators and Their Households.** Washington, DC: USDA, Economic Research Service, 1986. (Agricultural Economic Report No. 563). 34 p. \$2.25. S/N 001-019-00483-5.

***The Health Consequences of Involuntary Smoking: A Report of the Surgeon General.** Washington, DC: U.S. Department of Health and Human Services, 1987. 379 p. \$11.00. S/N 017-001-00458-8.

****Integrated Pest Management on Rangeland: State of the Art in the Sagebrush Ecosystem.** Beltsville, MD: USDA, Agricultural Research Service, Jan. 1987. (Report No. ARS-50). 90 p. \$13.95. PB87-170171/XAB.

****Land Improvement Tax Deductions: Use and Value to the Farm Sector.** Washington, DC: USDA, Economic Research Service, 1987. (Report No. AGES-861210). 21 p. \$9.95. PB87-146635/XAB.

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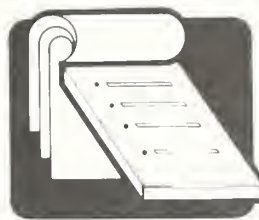
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AGRICULTURE DATEBOOK

December 1-3: OUTLOOK '88 ANNUAL CONFER-
ENCE. Washington, DC, U.S. Department of
Agriculture. USDA Speaker: Deputy Asst.
Secretary Ewen M. Wilson. Contact: Ray-
mond Bridge, Director, (202) 447-5447.

December 15-18: AMERICAN SOCIETY OF AG-
RICULTURAL ENGINEERS ANNUAL CONFERENCE.
Chicago, IL, Hyatt Regency. Contact:
ASAE (616) 429-0300.

1988

January 5-9: 19th ANNUAL MEETING OF THE
WORLD AQUACULTURE SOCIETY. Honolulu, HI.
Contact: Nancy Hadley or John Manzi
(803) 795-6350.

January 8-11: NATIONAL POTATO RESEARCH
AND EDUCATION FOUNDATION MEETING. Tampa
Bay, FL. Contact: NPR&EF, Englewood,
CO. Tel.: (303) 790-1141.

January 9-14: AMERICAN FARM BUREAU FEDERATION. New Orleans, LA. Contact: Robert B. Delano, 225 Touhy Avenue, Park Ridge, IL 60068. Tel.: (312) 399-5700.

January 9-14: AMERICAN LIBRARY ASSOCIATION MIDWINTER MEETING. San Antonio, TX, San Antonio Convention Center. Contact: ALA, 50 E. Huron St., Chicago, IL 60611.

January 20-22: INTERNATIONAL POULTRY TRADE SHOW. Atlanta, GA, Georgia World Congress Center. Contact: Southeastern Poultry & Egg Association, 1456 Church St., Decatur, GA 30030.

January 26-28: 1st INTERNATIONAL AG/BIO-TECH SHOW. Washington, D.C. Contact: Bill Freiberg, Agricultural Biotechnology News, P. O. Box 7, Cedar Falls, IA 50613.

February 7-9: NATIONAL COTTON COUNCIL OF AMERICA ANNUAL MEETING. Memphis, TN. Contact: NCCA (901) 274-9030.

February 15-17: NATIONAL CATTLEMEN'S ASSOCIATION ANNUAL MEETING. Orlando, FL. Contact: NCAA, Englewood, CA. Tel.: (303) 694-3005.

February 21-24: UNITED FRESH FRUIT AND VEGETABLE ASSOCIATION ANNUAL CONFERENCE. Houston, TX. Contact: UFFVA (703) 836-3410.

February 28 - March 3: GRAIN ELEVATOR AND PROCESSING SOCIETY ANNUAL MEETING. Wichita, KS, Century II Convention Center. Contact: GEPS, Minneapolis, MN. Tel.: (612) 339-4625.

March 14-17: NATIONAL DAIRY HERD IMPROVEMENT ASSOCIATION ANNUAL MEETING. Indianapolis, IN. Contact: NDHIA, Columbus, OH. Tel.: (614) 890-3630.

April 17-20: NATIONAL AGRI-MARKETING ASSOCIATION ANNUAL MEETING. Reno, NV. Contact: NA-MA, Shawnee Mission, KS. Tel.: (913) 341-5445.


May 4-6: AMERICAN FEED INDUSTRY ASSOCIATION ANNUAL MEETING. Nashville, TN. Contact: AFIA, Arlington, VA. Tel.: (703) 524-0810.

June 11-16: SPECIAL LIBRARIES ASSOCIA-

TION 79th ANNUAL CONFERENCE. Denver, CO. Contact: SLA, 1700 18th Street, N.W., Washington, D.C. 20009. Tel.: (202) 234-4700.

June 12-14: WORLD PORK EXPO. Des Moines, IA, Iowa State Fairgrounds. Contact: National Pork Producers Council, P. O. Box 10383, Des Moines, IA 50306.

June 20-23: AMERICAN HOME ECONOMICS ASSOCIATION. Baltimore, MD. Contact: AHEA, 2010 Massachusetts Avenue, N.W., Washington, D.C. 20036. Tel.: (202) 862-8300.

July 9-14: AMERICAN LIBRARY ASSOCIATION ANNUAL MEETING. New Orleans, LA. Contact: ALA, 50 E. Huron Street, Chicago, IL 60611. Tel.: (312) 944-6780. 

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Nancy Bruce (center above), Librarian of the Biotechnology Center, Research Triangle Park, NC, visited NAL's Biotechnology Information Center, and is seen here with the Coordinator, Jean Larson, and NAL Director, Joseph H. Howard.

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The NAL Meeting with Land-Grant and Field Librarians will take place in the Rio Grande Center, at the Hyatt Regency Hotel, San Antonio, Texas, Monday, January 12, 1988, from 2-4:00 p.m.

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